

# Delivering E-Resources with LibX

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# Delivering E-Resources with LibX

- LibX is a localized Firefox extension that integrates access to electronic resources into the browser
- Motivation – why do we need it?
- Background – why did we build it?
- Demonstration – what does it do?
- Editions – how to get one for your library?

# The Age of Google

- Study by Fast & Campbell 2004
  - *I still like Google: university student perceptions of searching OPACs and the web*
- Tampa Tribune article July 11, 2005
  - Professors frustrated with students relying solely on Google for research
  - Students respond that using the library is “work”

# What Users May Not Know About Google

- Google does not vet sources
- Google's page ranking algorithm does not reflect relevance
- Google lacks metadata
- Google does not provide access to all possible sources (e.g., print holdings)
- Google does not know about local resources

# What Users Like About Google

- Google is easy to use and convenient
  - Handles queries robustly
- Google is a one stop information resource
  - Web, Print, News, Scholar
- Google is fast and available 24/7
  - Search is integrated in most browsers

# Our Challenge

- Can librarians provide patrons with resources that are
  - Relevant
  - Authoritative
  - Complete
  - Accessible
- while providing the ease of use, integration, and availability of modern search engines?

# LibX History

- Idea developed in summer of 2005
- Researched existing library toolbars & extensions, scripts, bookmarklets,...
- Found a number of toolbars
  - FASTJack, HALbar, etc.
- Web localization services
  - Library Lookup project (Bookmarklets, Greasemonkey scripts)
  - WAG The Dog project

However...

# LibX History (cont'd)

- Existing toolbars were not adaptable (or adoptable!) for use by other libraries
  - Or it wasn't easy to do so
- Existing toolbars were limited in functionality
- We wanted an easily adaptable infrastructure on which to deliver a wide variety of services



# LibX

- Provides shortcut to library resources
- Uses Firefox browser extension technology
  - Integrated into the browser's user interface
  - Installed on the client-side



# What LibX Provides

- Direct Access to OPAC(s)
  - Integrated toolbar
  - Smart context menu
- Direct access to OpenURL resolver to find appropriate copy
  - Directly via toolbar or indirectly through Google Scholar
- Localization
  - Research companion that “hints” at library resources
  - Support for COinS

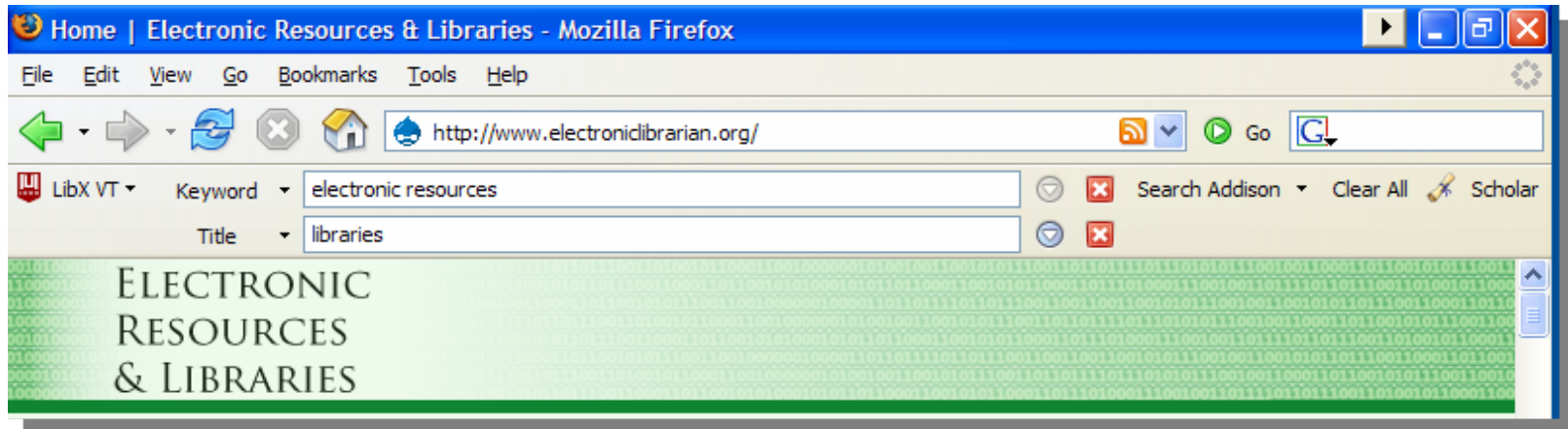
# OPAC Access

- Toolbar User Interface
  - Supports single & multi-term searches
  - Not intended to replace “advanced search page” – captures common search pattern
  - User can set display preferences
- Right-click context menu
  - Adapts to selections
- Support of different OPACs
  - Millenium, Dynix/Horizon, Voyager, Aleph
  - Configurable to support multiple OPACs simultaneously

# Demonstration 1

Toolbar, Context Menus

# OPAC Toolbar



- Expands automatically for multi-term searches
- Offers commonly used search types:
  - Keyword, author, title, isbn, call number

Virginia Tech Libraries /All Locations - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://addison.vt.edu/search/X?SEARCH=(electronic%20resources)+and++t: Go

LibX VT Keyword electronic resources Search Addison Clear All Scholar

Title libraries


Home | Electronic Resources & Libraries Virginia Tech Libraries /All Locations

Result Page 1 2 Next

Save Marked Records Save All On Page


**KEYWORDS (1-12 of 17)**

1 **Digital libraries / William Y. Arms.** 2000

☐ Save 


Call number	Status	Format
Z692.C65 A76 2000	<a href="#">Check Availability</a>	BOOK

2 **Libraries, the Internet, and scholarship : tools and trends converging / edited by Charles F. Thomas** 2002

☐ Save 

Call number	Status	Format
Z692.C65 L535 2002	<a href="#">Check Availability</a>	BOOK

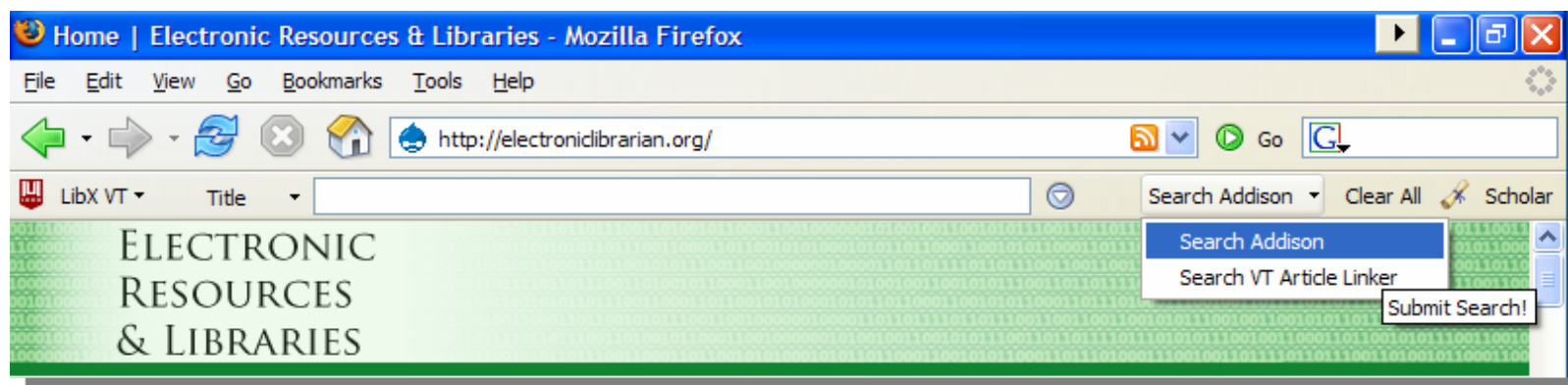
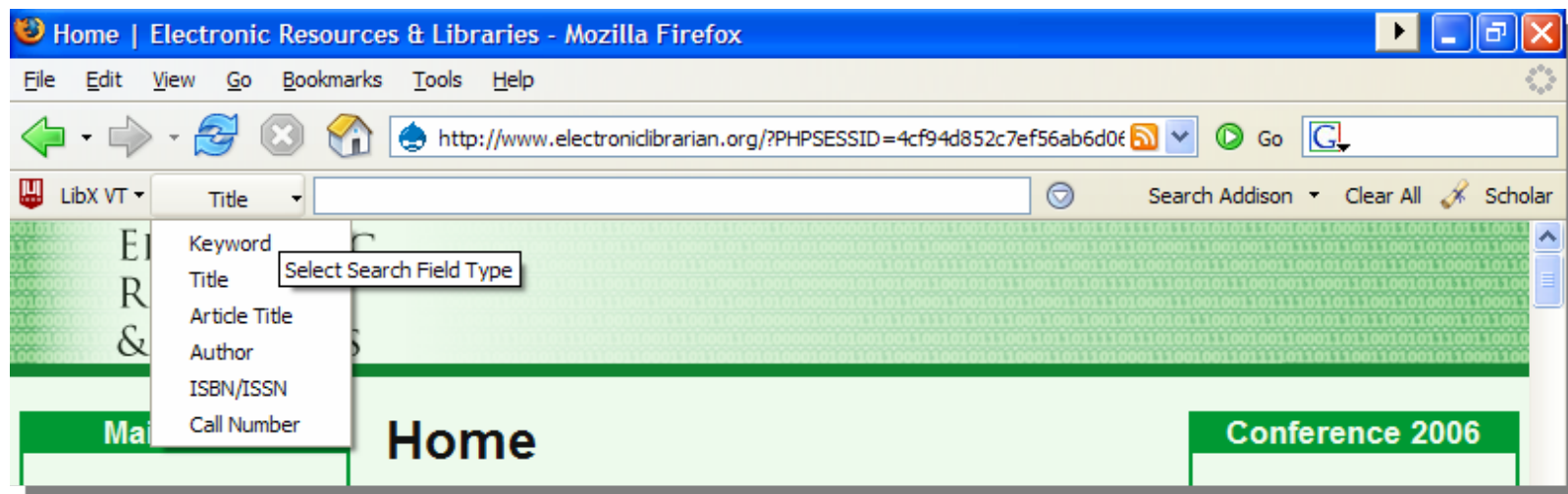
3 **Perceptions of libraries and information resources : a report to the OCLC membership / [principal co** 2005

☐ Save 

Call number	Status	Format
Z721 .P47 2005	<a href="#">Check Availability</a>	BOOK

Done

# OPAC Toolbar (2)



# Context Menu





Virginia Tech Libraries /All Locations - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://addison.vt.edu/search/?searchtype=t&searcharg=American%20Gods Go

LibX VT Keyword Search Addison Clear All Scholar


NG Neil Gaiman - American Gods Virginia Tech Libraries /All Locations

Author [Gaiman, Neil.](#)

Title **American gods : a novel / Neil Gaiman.**

Publication info. New York : W. Morrow, c2001.

Call no. PS3557.A3519 A84 2001



Location	Call No.	Status
<a href="#">Newman 3rd Floor</a>	<a href="#">PS3557.A3519 A84 2001</a>	DUE 04-11-06

Edition 1st ed.

Description 465 p. ; 25 cm.

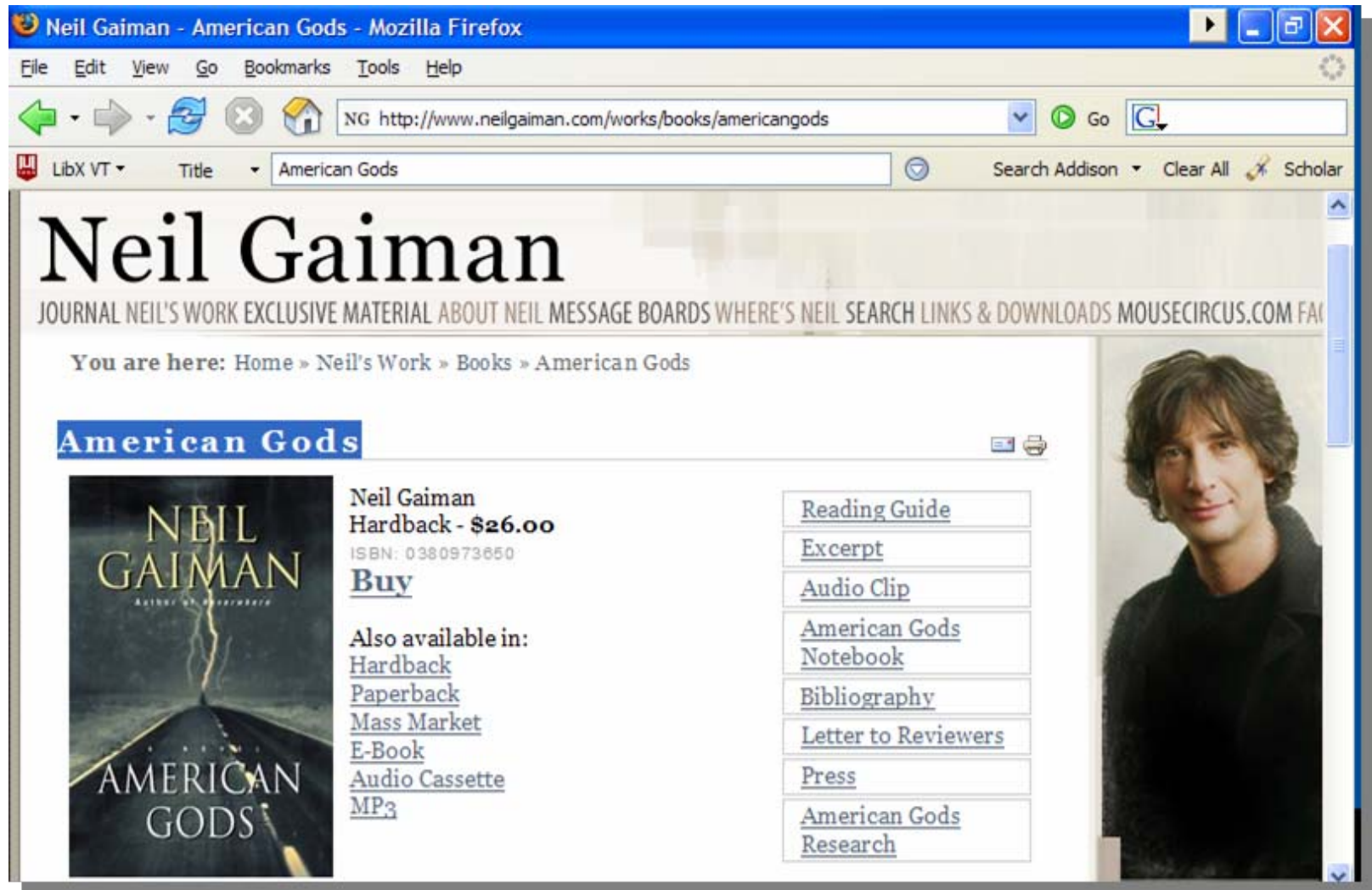
Subject [National characteristics, American -- Fiction.](#)  
[Spiritual warfare -- Fiction.](#)  
[Ex-convicts -- Fiction.](#)  
[Bodyguards -- Fiction.](#)  
[Widowers -- Fiction.](#)

ISBN 0380973650 (alk. paper)

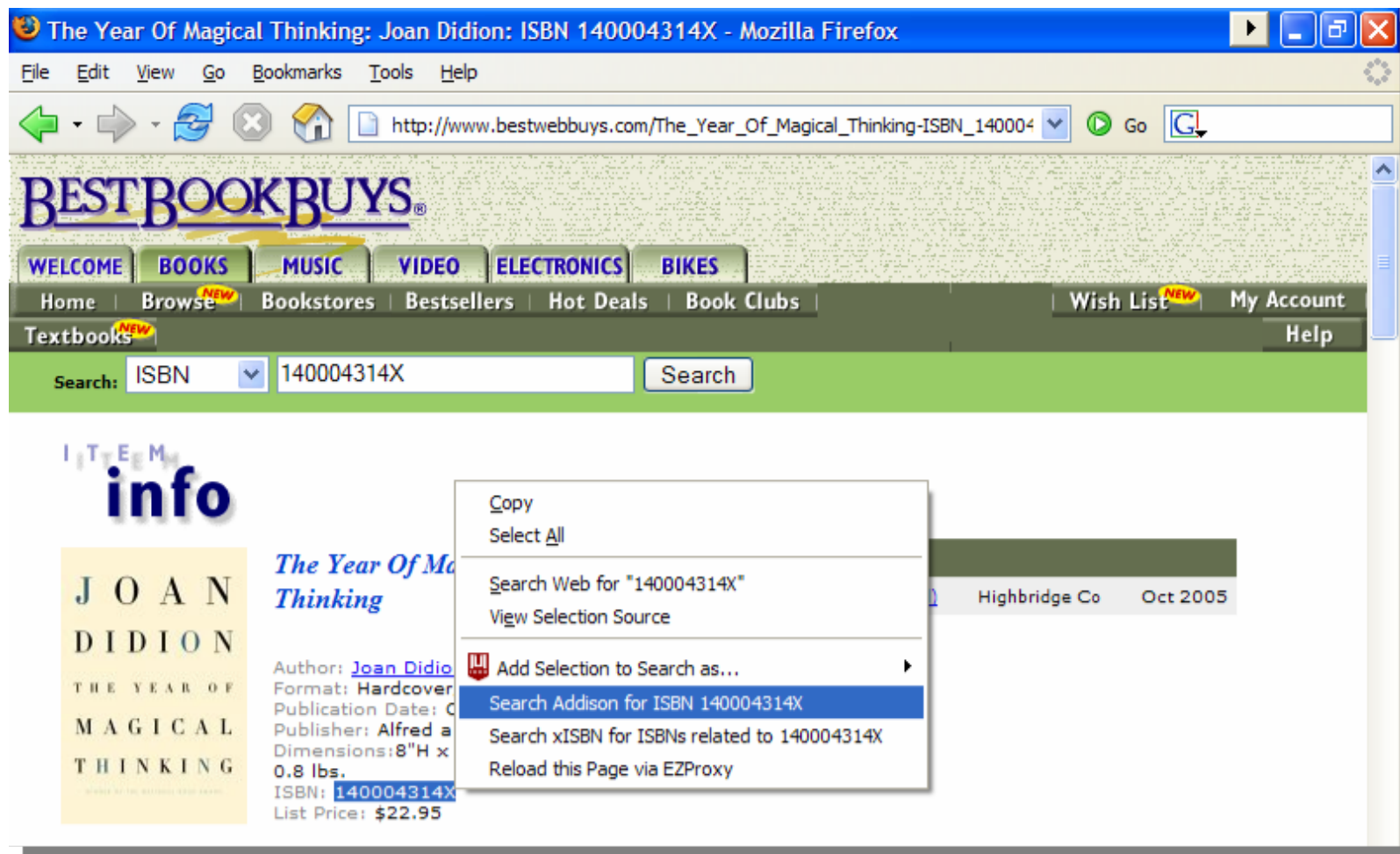
Result page: [Previous Page](#) [Next Page](#)

Done

# Nested Context Menu



# Adaptive Context Menu



Virginia Tech Libraries /All Locations - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://addison.vt.edu/search/?searchtype=i&searcharg=140004314X&startl

Start Over Request Save Records MARC Display Another Search

(Search History)

ISBN/ISSN 140004314X All University Libraries System Sorted

Search

☐ Limit search to available items

Result page: Previous Page Next Page

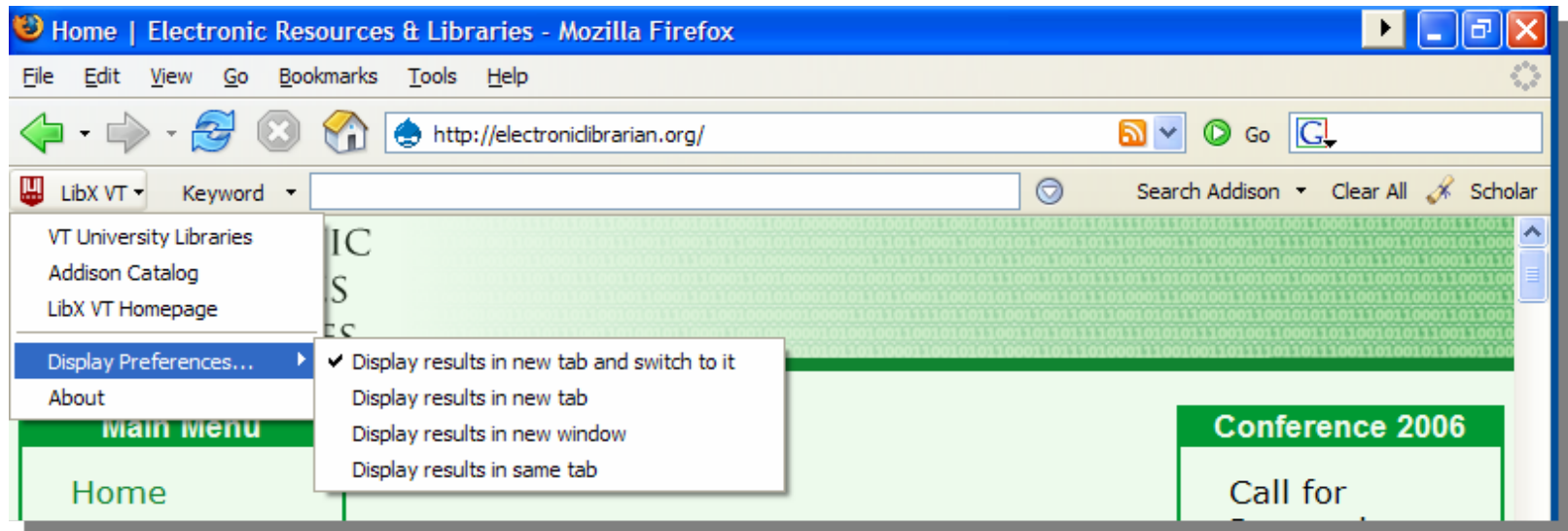
Author	<a href="#">Didion, Joan.</a>	
Title	<b>The year of magical thinking / Joan Didion.</b>	
Publication info.	New York : Knopf, 2005.	
Call no.	PS3554.I33 Z63 2005	

<b>Location</b>	<b>Call No.</b>	<b>Status</b>
<a href="#">Newman 3rd Floor</a>	<a href="#">PS3554.I33 Z63 2005</a>	DUE 05-17-06

Edition	1st ed.
Description	227 p. ; 21 cm.

Done

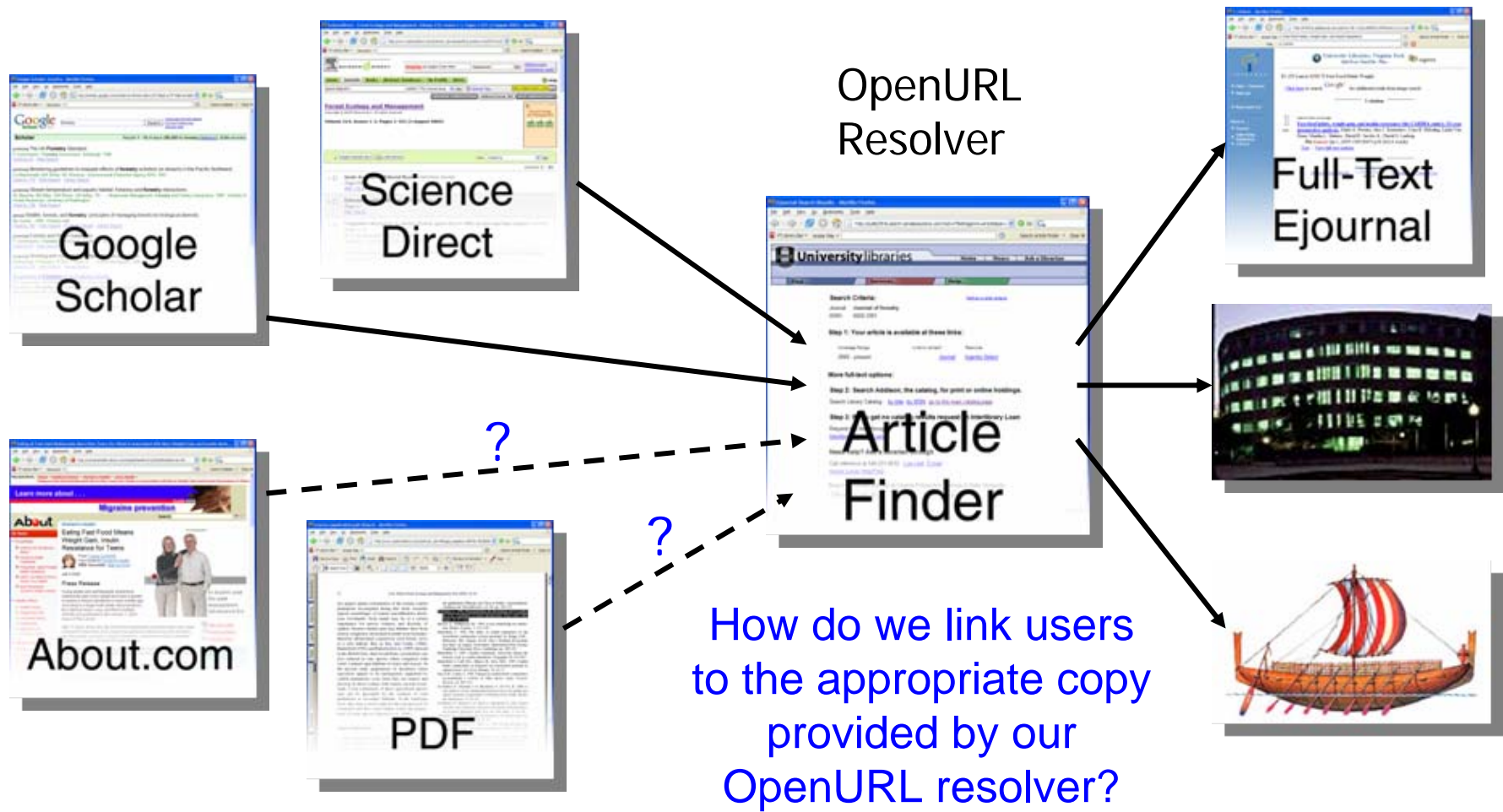
# Display Preferences & Links



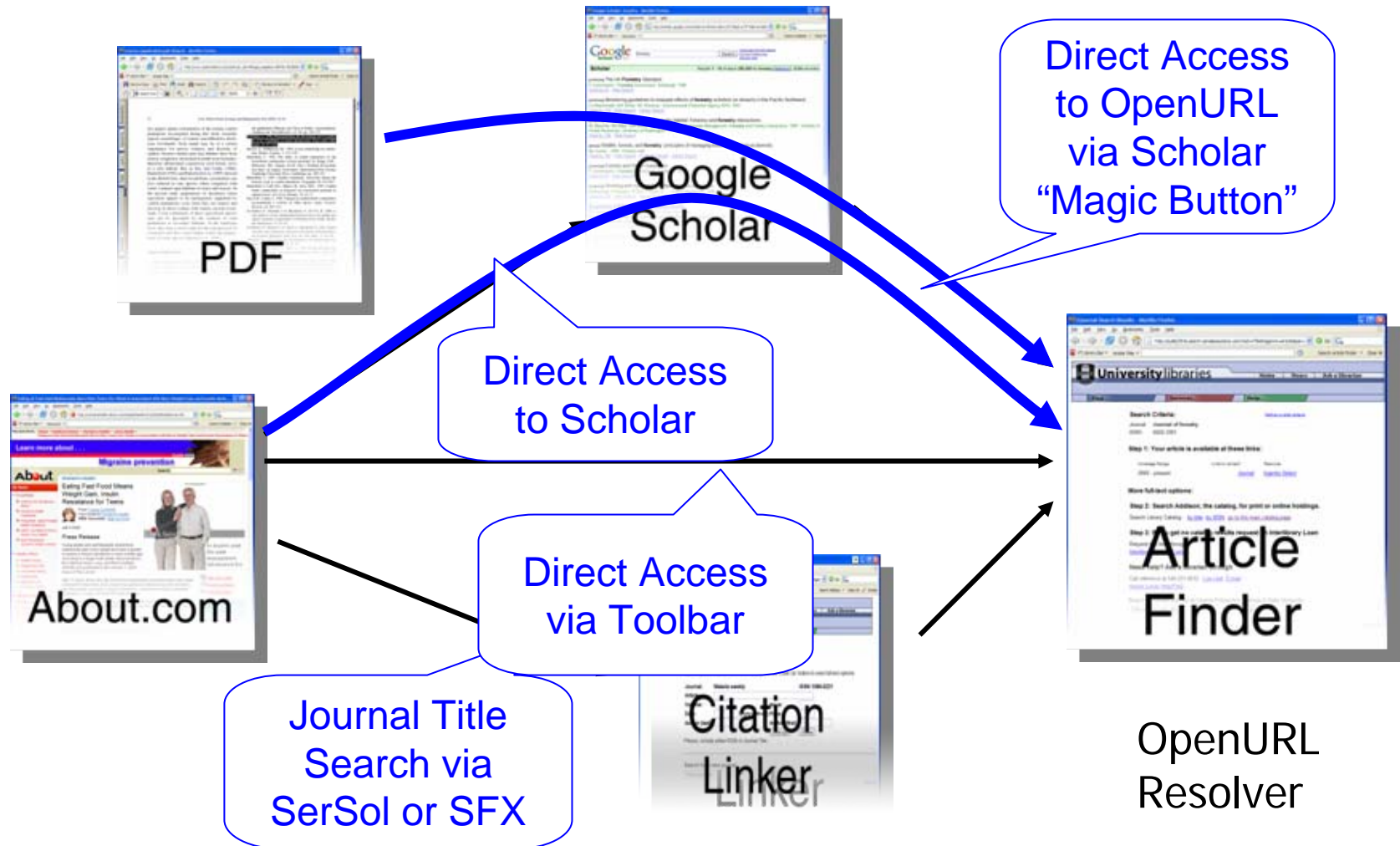
- Users can set preferences on how results should be displayed
- Libraries can configure links that are being displayed to users



# OpenURL & Appropriate Copy



# OpenURL Access Options in LibX

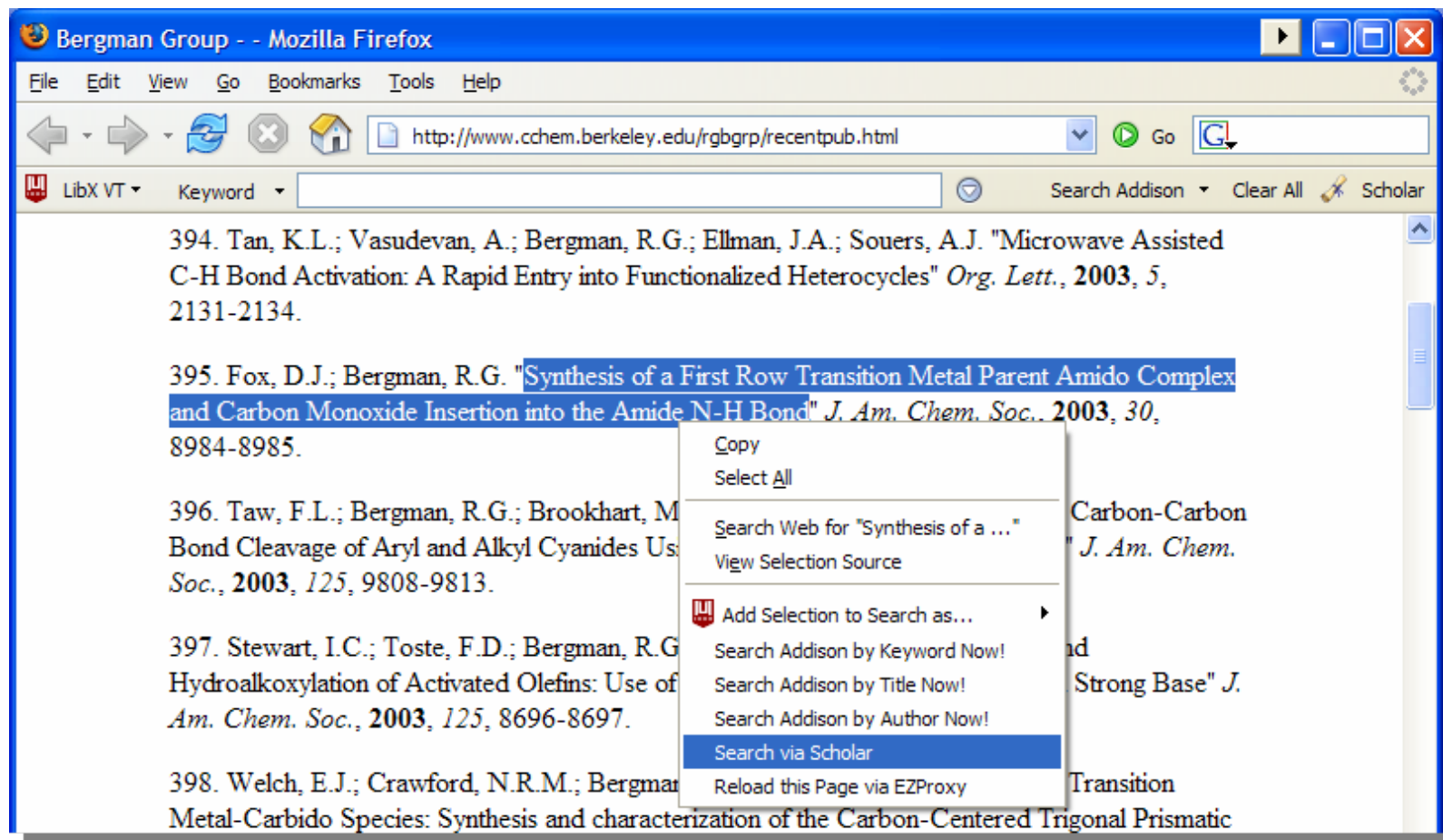


# Demonstration 2

OpenURL Access &  
The “Magic Button”



# OpenURL Access via Scholar



Source: <http://www.cchem.berkeley.edu/rgbgrp/recentpub.html>

Ejournal Search Results - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://su8bj7jh4j.search.serialssolutions.com/?sid=libx:virginiatech&aulast

LibX VT Keyword Search Addison Clear All Scholar

Bergman Group - Ejournal Search Results synthesis of a first row transition metal par...

**Search Criteria:** [Refine or alter criteria](#)

Synthesis of a first-row transition metal parent amido  
Article: complex and carbon monoxide insertion into the amide  
N-H bond.  
Author: Fox, Daniel  
**Journal of the**  
Journal: **American Chemical Society** ISSN: 0002-7863  
Volume: 125 Issue: 30 Page: 8984 Date: 2003-07-30  
PMID: 15369333

**Step 1: Your article is available at these links:**

Coverage Range	Links to content	Resource
1996 - present	<a href="#">Article</a>	<a href="#">American Chemical Society Web Editions</a>
		Publisher via CrossRef

**More full-text options:**

Done

Article DOI Lookup - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

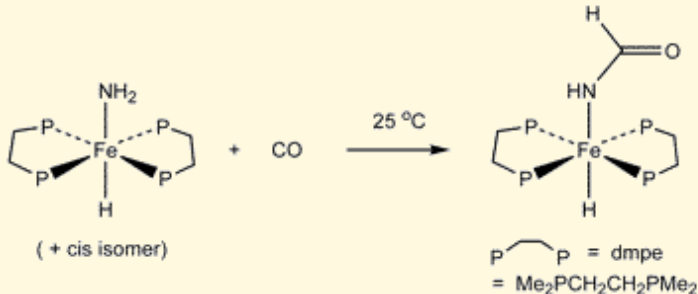
http://pubs3.acs.org/acs/journals/doilookup?in\_doi=10.1021/ja035707a

LibX VT Keyword Search Addison Clear All Scholar

ACS PUBLICATIONS  
HIGH QUALITY. HIGH IMPACT.

Feedback Purchase

**Synthesis of a First-Row Transition Metal Parent Amido Complex and Carbon Monoxide Insertion into the Amide N-H Bond**  
Daniel J. Fox and Robert G. Bergman  
J. Am. Chem. Soc., **2003**; 125(30) pp 8984 - 8985; (Communication) DOI: [10.1021/ja035707a](https://doi.org/10.1021/ja035707a)



(+ cis isomer)

P—P = dmpe  
= Me<sub>2</sub>PCH<sub>2</sub>CH<sub>2</sub>PMe<sub>2</sub>

Abstract Full: [HTML](#) / [PDF](#) (36K) [Supporting Info](#)

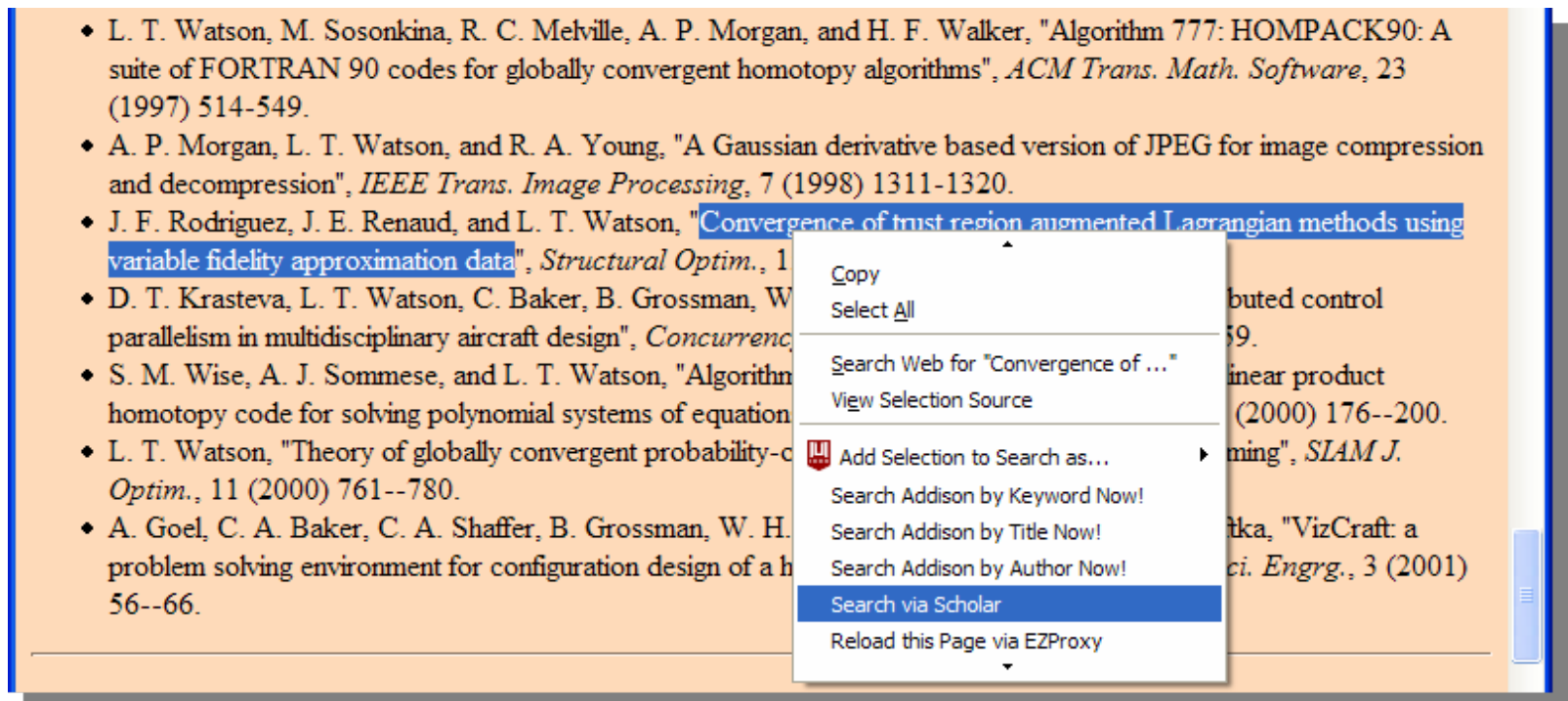
All users may click on the [Abstract] link to view the abstract of this article. If you are a subscriber, you may click on the [HTML] or [PDF] link to view the article. If you are not a subscriber, you may purchase and download the PDF version of the article using your credit card by clicking on the [Purchase] link.

Done



# OpenURL Access via Scholar (2)

OpenURL can lead user to print resources if no electronic copy is available



The screenshot shows a web page with a list of references. A context menu is open over the third reference, which is highlighted in blue. The menu options are:

- Copy
- Select All
- Search Web for "Convergence of ..."
- View Selection Source
- Add Selection to Search as...
- Search Addition by Keyword Now!
- Search Addition by Title Now!
- Search Addition by Author Now!
- Search via Scholar
- Reload this Page via EZProxy

The references listed are:

- L. T. Watson, M. Sosonkina, R. C. Melville, A. P. Morgan, and H. F. Walker, "Algorithm 777: HOMPAC90: A suite of FORTRAN 90 codes for globally convergent homotopy algorithms", *ACM Trans. Math. Software*, 23 (1997) 514-549.
- A. P. Morgan, L. T. Watson, and R. A. Young, "A Gaussian derivative based version of JPEG for image compression and decompression", *IEEE Trans. Image Processing*, 7 (1998) 1311-1320.
- J. F. Rodriguez, J. E. Renaud, and L. T. Watson, "Convergence of trust region augmented Lagrangian methods using variable fidelity approximation data", *Structural Optim.*, 1
- D. T. Krasteva, L. T. Watson, C. Baker, B. Grossman, W. H. Shaffer, "Parallelism in multidisciplinary aircraft design", *Concurrent Engineering*, 10 (2000) 176--200.
- S. M. Wise, A. J. Sommesse, and L. T. Watson, "Algorithm 777: HOMPAC90: A suite of FORTRAN 90 codes for globally convergent homotopy algorithms", *ACM Trans. Math. Software*, 23 (1997) 514-549.
- L. T. Watson, "Theory of globally convergent probability-based optimization", *Optim.*, 11 (2000) 761--780.
- A. Goel, C. A. Baker, C. A. Shaffer, B. Grossman, W. H. Shaffer, "VizCraft: a visualization environment for configuration design of a vehicle", *Proc. ASME Winter Annual Meeting*, 3 (2001) 176--200.

Source: <http://people.cs.vt.edu/~ltw/shortvita.html>

Ejournal Search Results - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://su8bj7jh4j.search.serialssolutions.com/?sid=libx:virginiatech&aulast Go G ne watson short vita

LibX VT Keyword Search Addison Clear All Scholar

Layne T. Watson Ejournal Search Results convergence of trust region augmented lag...

**Search criteria:** [Refine or alter criteria](#)

Article: Convergence of trust region augmented Lagrangian methods using variable fidelity approximation data

Author: Rodrigues, JF

Journal: **Structural Optimization** ISSN: 0934-4373

Volume: 15 Issue: 3-4 Page: 141 Date: 1998

DOI: 10.1007/BF01203525

**No direct links were found for the full-text of this article.**

Please continue to step 2.

**Step 2: Search Addison the catalog, for print or online holdings.**

Search Library Catalog [by title](#) [by ISSN](#) [go to the main catalog page](#)

**Step 3: If you get no catalog results request an Interlibrary Loan**

Request the item through [Interlibrary Loan \(ILLiad\)](#)

Done

Virginia Tech Libraries /All Locations - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://addison.vt.edu/search/i?SEARCH=0934-4373

LibX VT Keyword Search Addison Clear All Scholar

**Title** **Structural optimization.**

**Publication info.** Berlin : Springer-Verlag, 1989-

**Call no.** TA658 .S65

<b>Call No.</b>	TA658 .S65
<b>Location</b>	Newman Library
<b>Holdings</b>	v. 1-18 1989-Dec. 1999 STACKS

Location	Call No.	Status
<a href="#">Newman 5th Floor</a>	<a href="#">TA658 .S65</a> V. 17	AVAILABLE
<a href="#">Newman 5th Floor</a>	<a href="#">TA658 .S65</a> V. 18	AVAILABLE

**Description** 18 v. : ill. ; 28 cm.

**Frequency** Quarterly

**Publication date** Vol. 1, no. 1-  
Ceased with issue for Vol. 18, no. 4, in Dec. 1999.


**Note** Title from cover.

**Indexed in:** Computer & control abstracts 0036-8113 Mar. 1990-  
Electrical & electronics abstracts 0036-8105 Mar. 1990-  
Physics abstracts 0036-8001 Mar. 1990-

Done



# Localization via LibX

- LibX enriches web pages before they are displayed to the user
- Inserts hyperlinked “cues”  that point at local library resources
  - E.g., amazon.com page points at library record of same book
- Implemented for: google.com, yahoo.com, bn.com, NY Times, Books in Print, ...
- Includes support for COinS (ocoin.info)



# Demonstration 3

## Localization using Cues

# Cues on Amazon

The screenshot shows the Amazon.com website in a Mozilla Firefox browser window. The address bar displays the URL: <http://www.amazon.com/gp/product/0743226712/sr=8-1/qid=114281207>. The page title is "Amazon.com: 1776: Books: David McCullough - Mozilla Firefox".

The navigation bar includes links for "amazon.com", "Annette's Store", "Books", "See All 32 Product Categories", "Your Account", "Cart", "Wish List", and "Help". Below this, there are links for "Advanced Search", "Browse Subjects", "Bestsellers", "The New York Times® Best Sellers", "Magazines", "Corporate Accounts", "Amazon Shorts", "AmazonConnect", "Bargain Books", "Used Books", and "Textbooks".

The search bar shows "Books" as the selected category. To the right of the search bar are buttons for "GO", "Find Gifts", and "Web Search".

A banner below the search bar reads: "Join **Amazon Prime** and ship Two-Day for **FREE** and Overnight for \$3.99."

The product page for "1776 (Hardcover)" by David McCullough is displayed. The title "1776 (Hardcover)" is circled in red. The author's name "David McCullough" is also circled in red. The book cover features the title "1776" in large red letters and the author's name "DAVID McCULLOUGH" in white. A "SEARCH INSIDE!" logo is visible in the top left corner of the book cover.

The product description includes the text: "by David McCullough 'On the afternoon of Thursday, October 26, 1775, His Royal Majesty George III, King of England, fled from the royal splendor from St. James's Palace to...' (more)". Below this, there are links for "Explore: Concordance | Text Stats | SIPs | CAPs", "Browse: Front Cover | Copyright | Table of Contents | Excerpt | Index | Surprise Me!".

The pricing information shows: "List Price: \$32.00", "Price: \$20.16 & eligible for FREE Super Saver Shipping on orders over \$25. Details", and "You Save: \$11.84 (37%)".

On the right side of the page, there is a "Quantity: 1" dropdown menu, an "Add to Shopping Cart" button, and a "Sign in to turn on 1-Click ordering" link. Below this, it states: "A9.com users save 1.57% on Amazon. Learn how." and "More Buying Choices 167 used & new from \$8.55".

Virginia Tech Libraries /All Locations - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://addison.vt.edu/search/?searchtype=i&searcharg=0743226712&sta

LibX VT Keyword Search Addison Clear All Scholar

ISBN/ISSN 0743226712 All University Libraries System Sorted

Search

☐ Limit search to available items

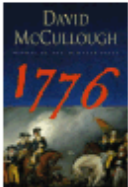
Result page: Previous Page Next Page

Author [McCullough, David G.](#)

Title **1776 / David McCullough.**

Publication info. New York : Simon & Schuster, c2005.

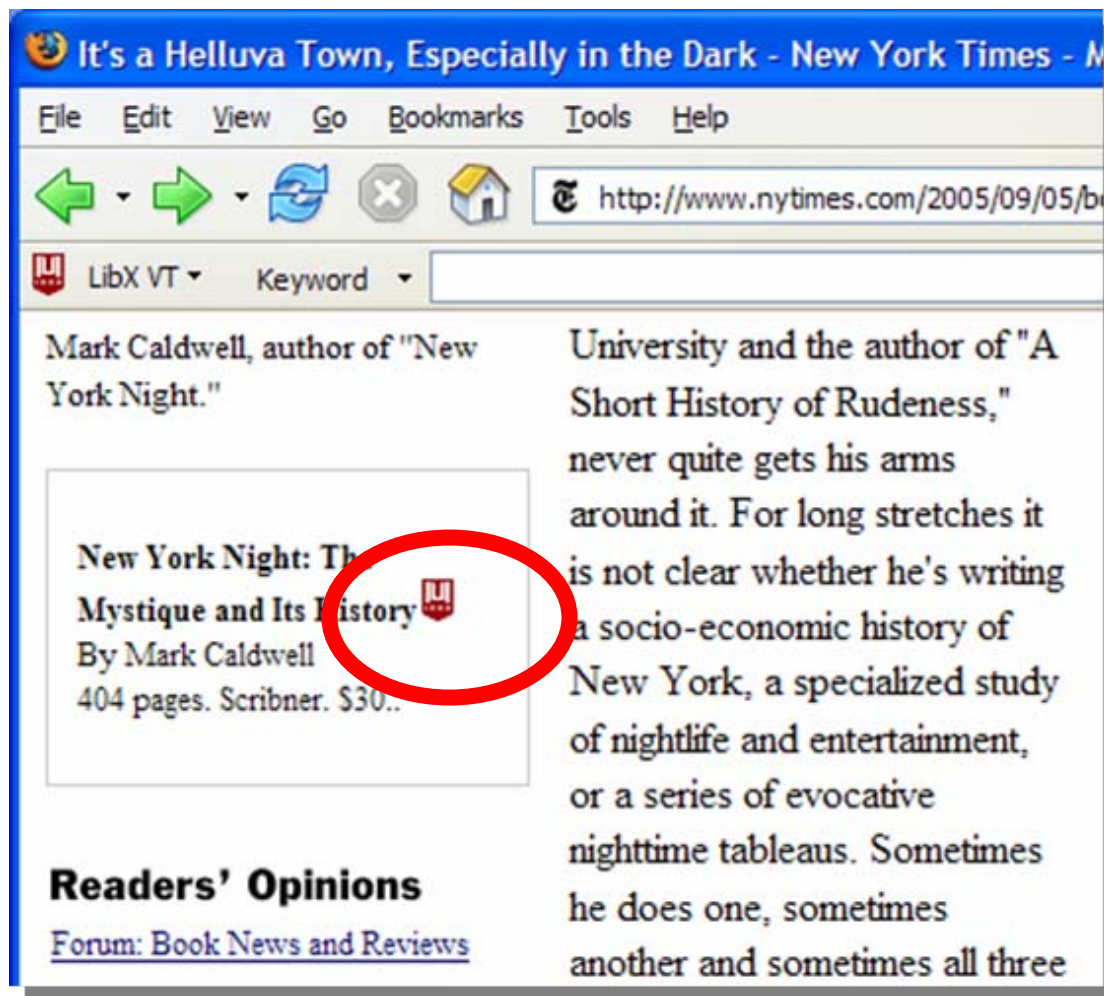
Call no. E208 .M396 2005



Location	Call No.	Status
<a href="#">Newman 2nd Floor</a>	<a href="#">E208 .M396 2005</a>	DUE 10-19-05BILLED
<a href="#">Newman Popular Reading</a>	<a href="#">Browse E524</a>	DUE 04-05-06 +1 HOLD
<a href="#">Newman 2nd Floor</a>	<a href="#">E208 .M396 2005</a> c.2	DUE 04-14-06

Done

# New York Times Book Review



Virginia Tech Libraries /All Locations - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://addison.vt.edu/search/?searchtype=t&searcharg=New%20York%20Night%20The%20Mystique%20and%20its%20history%20Mark%20Caldwell

LibX VT Keyword Search Addison Clear All Scholar

TITLE New York Night: The Mystique and its history / Mark Caldwell All University Libraries System Sorted

Search

☐ Limit search to available items


Result page: Previous Page Next Page

Author [Caldwell, Mark.](#)

Title **New York night : the mystique and its history / Mark Caldwell.**

Publication info. New York : Scribner, c2005.

Call no. F128.3 .C35 2005



Location	Call No.	Status
<a href="#">Newman 3rd Floor</a>	<a href="#">F128.3 .C35 2005</a>	AVAILABLE

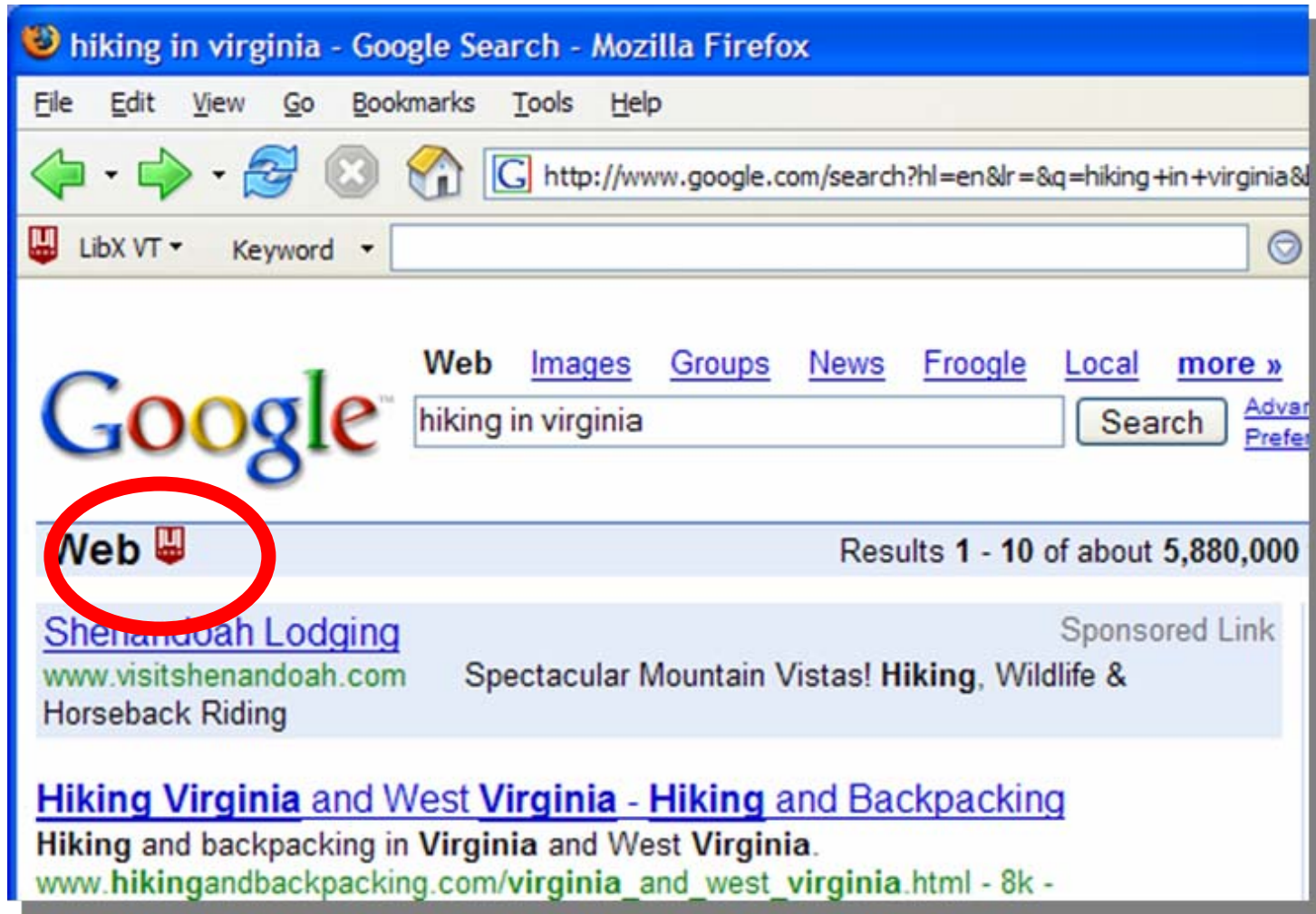
Description viii, 404 p. ; 24 cm.

Bibliography Includes bibliographical references (p. 378-390).

Contents New Amsterdam noir : the dark nights of Dutch Manhattan --  
 Bottle watch nights : city streets after sundown, from Peter

Done

# Google





Virginia Tech Libraries /All Locations - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://addison.vt.edu/search/Y?SEARCH=hiking%20in%20virginia&startLir Go

LibX VT Keyword Search Addison Clear All Scholar

KEYWORD hiking in virginia All University Libraries Search


☐ Limit search to available items

Tried: (hiking and in and virginia)  
15 results found. Sorted by Relevance


Result Page **1** [2](#) [Next](#)

[Save Marked Records](#) [Save All On Page](#)


**KEYWORDS (1-12 of 15)**

**1** ☐ Save  **A cross-scalar validation study of the motivations of backcountry hikers in Shenandoah National Park** 1980

Call number	Status	Format
LD5655.V855 1980.D398	<a href="#">Check Availability</a>	BOOK

**2** ☐ Save  **The trails of Virginia : hiking the Old Dominion / Allen de Hart.** 2003

Call number	Status	Format
GV199.42.V8 D4 2003	<a href="#">Check Availability</a>	BOOK



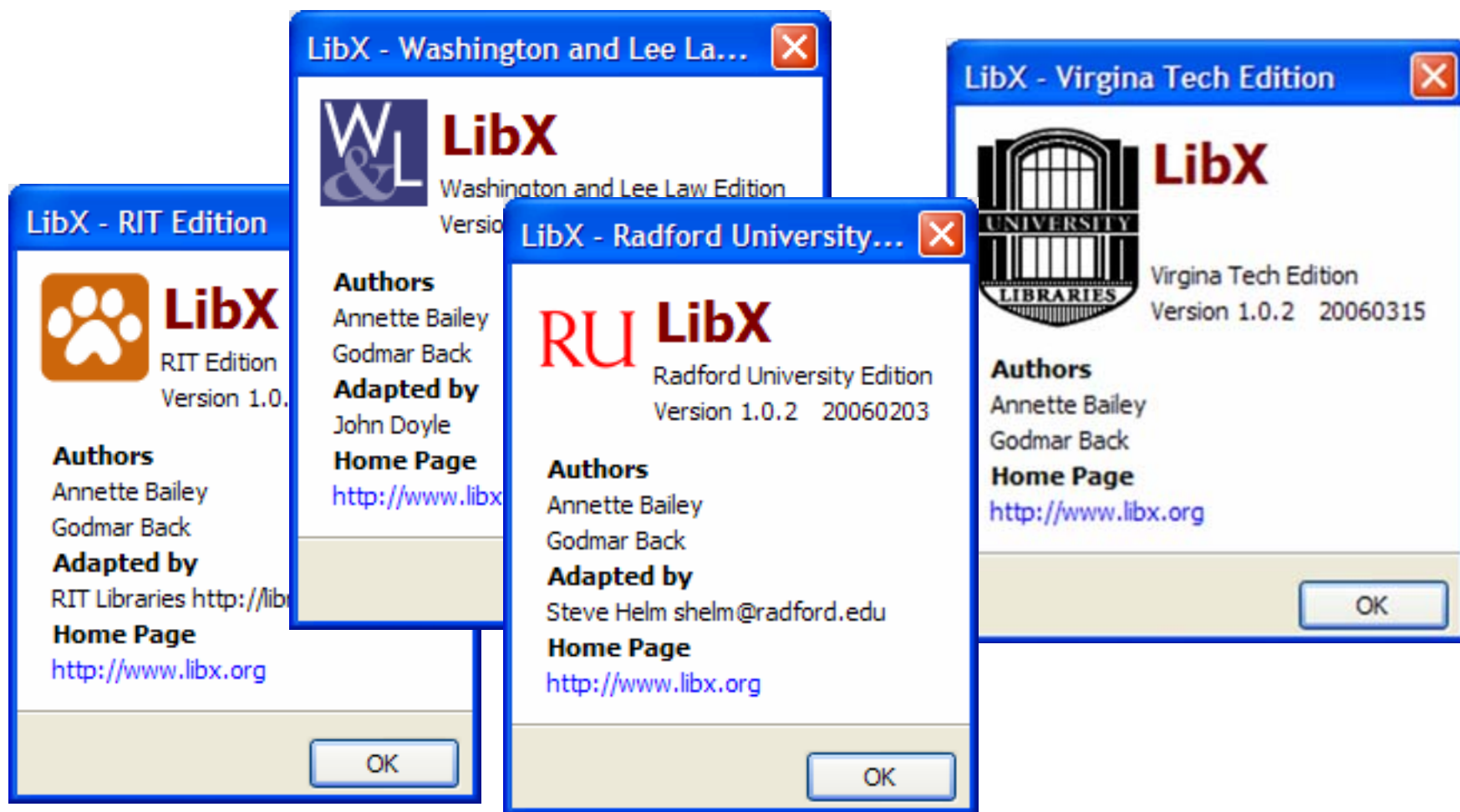
Done

# Try LibX!

- LibX is available for your library!
- It's nifty
- It's free
- It's Open Source
- Go to <http://libx.org> for more information



# Currently Deployed Editions



# Future Work

- Edition builder interface
  - Currently building an extension requires creating a config file which must be uploaded and checked
  - Goal: develop a wizard-type web interface where libraries can build a LibX edition interactively
- Create a LibX plug-in for Internet Explorer

# Questions?

- Thank you from the LibX Team

Annette Bailey

Godmar Back

Kiri Goldbeck

[libx.org@gmail.com](mailto:libx.org@gmail.com)

# Additional Material

# LibX & Privacy

- Key goal: protecting LibX users' privacy
- Users do not reveal more information than they would if they used the library catalog
  - Exception: Referrer URL
- Tenet: Do not run queries unless user explicitly clicks on a link
  - E.g., no automatic holdings checking if user visits amazon
- Trade-off Privacy/Convenience

# LibX & Security

- Firefox extensions are trusted
- Users must trust that extension is not malicious
- LibX does not support user-provided scripts
  - More secure than Greasemonkey
- Source code is available for anybody to inspect
- Future: sign extensions